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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/681,283	10/09/2003	Tae Yamane	OKI.586	2898
20987	7590	04/19/2005	EXAMINER	
VOLENTINE FRANCOS, & WHITT PLLC ONE FREEDOM SQUARE 11951 FREEDOM DRIVE SUITE 1260 RESTON, VA 20190			ANDUJAR, LEONARDO	
			ART UNIT	PAPER NUMBER
			2826	

DATE MAILED: 04/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/681,283

Applicant(s)

YAMANE ET AL.

Examiner

Leonardo Andújar

Art Unit

2826

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) 4-12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 01/04&05/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION***Election/Restrictions***

1. Applicant's election with traverse of species 1 (claims 1-3) in a communication filed on 03/09/2005 is acknowledged. The traversal is on the ground(s) that the claim 1 is generic. Although claim 1 may be considered generic for each one of the claimed species this does not imply that each of the claimed species are not different and/or patentable distinct. In the restriction requirement sent on 02/09/2005, it was clearly established that the application contains claims directed to patentably distinct species wherein each species is associated to each of the different embodiments depicted in the drawings. The examination of all the species is considered a serious burden since each species contains features that make them distinct and non-obvious over the other. Therefore, a complete and independent examination would be required for each of the disclosed species. Furthermore, the criterion for restriction of species is not whether the groups are coextensive but that the claims recite mutually exclusive characteristics of such species (MPEP § 806.04(f)). To traverse on the grounds that the species are not patentably distinct, the applicant should submit evidence, or identify such evidence in the record, showing the species to be obvious variants, or clearly admit on the record that this is the case. In either case, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) against the other invention(s). Because the applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by Takahashi (JP-2001257310 see English equivalent US 6,765,299).
5. Regarding claim 1, Takahashi (e.g. fig. 3) shows a semiconductor device comprising: a plurality of semiconductor chips (101, 111) each of which has a front side formed with a plurality of integrated circuits and a back side, the semiconductor chips being stacked; a first conductive pattern 305 electrically connecting the integrated circuits; an external terminal 107 electrically connected to the first conductive pattern; and an encapsulating resin 130 for encapsulating the semiconductor chips and the first conductive pattern.

This cross-sectional view shows a semiconductor device with a central gate structure. The device includes a substrate (101) with a thin layer (102) on top. A gate stack (103, 104) is formed on the substrate. A central gate region (111) is surrounded by side spacers (112, 113). A gate electrode (114) is positioned on top of the central gate region. A gate insulating layer (115) covers the top of the device. A gate contact (116) is formed on the side of the gate stack. A gate terminal (117) is formed on top of the gate contact. A gate pad (118) is formed on top of the gate terminal. A gate opening (119) is formed in the gate insulating layer. A gate trench (120) is formed in the gate insulating layer. A gate trench opening (121) is formed in the gate trench. A gate trench bottom (122) is formed in the gate trench opening. A gate trench side (123) is formed in the gate trench. A gate trench top (124) is formed in the gate trench. A gate trench bottom (125) is formed in the gate trench opening. A gate trench side (126) is formed in the gate trench. A gate trench top (127) is formed in the gate trench. A gate trench bottom (128) is formed in the gate trench opening. A gate trench side (129) is formed in the gate trench. A gate trench top (130) is formed in the gate trench.


7. Regarding claim 3, Takahashi teaches that the semiconductor chips include a first semiconductor chip 101 and a second semiconductor chip 111. The second semiconductor chip is mounted on the first semiconductor chip as the backside of the second semiconductor chip faces the front side of the first semiconductor chip. Also, the semiconductor device further includes a plurality of pad electrodes 102 formed on the front side of the first semiconductor chip and electrically connected to the integrated circuits, a second conductive pattern 115 for connecting the adjacent pad electrodes (102, 112), and a post electrode 106 formed on the second conductive pattern for

Art Unit: 2826

electrically connecting between the second conductive pattern and the external terminal 107.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Fujisawa, Shim and Wark teach stacked semiconductor devices which are similar to the instant invention. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leonardo Andújar whose telephone number is 571-272-1912. The examiner can normally be reached on Mon through Thu from 9:00 AM to 7:30 PM EST. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan J. Flynn can be reached on 571-272-1915. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Leonardo Andújar
Patent Examiner

Art Unit 2826

04/09/2005